

**WHAT IS CLAIMED IS:**

1. A liquid crystal display device for displaying an image by changing orientation of a liquid crystal layer sealed between two substrates, the device comprising:
  - a lower substrate having a microstructure which outputs light incident on a side surface of the lower substrate to an upper surface of the lower substrate;
  - a light source emitting light to the side surface of the lower substrate;
  - a selective reflection panel provided on the upper surface of the lower substrate to reflect light having a predetermined incident angle or greater and transmit the remaining light; and
  - a reflection panel provided under the lower substrate.
2. The liquid crystal display device as claimed in claim 1, further comprising a polarization panel polarizing light incident on the liquid crystal layer.
3. The liquid crystal display device as claimed in claim 2, wherein the polarization panel is disposed between the microstructure and the reflection panel.
4. The liquid crystal display device as claimed in claim 2, wherein the polarization panel is disposed above the selective reflection panel.
5. The liquid crystal display device as claimed in claim 1, wherein the selective reflection panel further includes a polarization function to polarize light.

6. The liquid crystal display device as claimed in claim 1, wherein the microstructure is a holographic pattern having a diffraction grating structure.

7. The liquid crystal display device as claimed in claim 6, wherein the holographic pattern is formed at at least one of a lower surface and the upper surface of the lower substrate.

8. The liquid crystal display device as claimed in claim 6, wherein the interval between gratings of the holographic pattern is not greater than  $2\text{ }\mu\text{m}$ .

9. A liquid crystal display device for displaying an image by changing orientation of a liquid crystal layer sealed between two substrates, the device comprising:

a lower substrate having a microstructure which outputs light incident on a side surface of the lower substrate to an upper surface of the lower substrate;

a light source emitting light to the side surface of the lower substrate;

an optical panel provided on the upper surface of the lower substrate and including a selective reflection portion to reflect light having a predetermined incident angle or greater and transmit the remaining light, and a total reflection portion reflecting all light; and

a reflection panel provided under the lower substrate.

10. The liquid crystal display device as claimed in claim 9, further comprising a polarization panel polarizing light incident on the liquid crystal layer.

11. The liquid crystal display device as claimed in claim 10, wherein the polarization panel is disposed between the microstructure and the reflection panel.

12. The liquid crystal display device as claimed in claim 10, wherein the polarization panel is disposed above the optical panel.

13. The liquid crystal display device as claimed in claim 9, wherein the optical panel is formed such that at least one selective reflection portion and at least one total reflection portion are located in each pixel.

14. The liquid crystal display device as claimed in claim 9, wherein the microstructure is selectively formed only at a position where light is transmitted through the selective reflection portion.

15. The liquid crystal display device as claimed in claim 9, wherein the microstructure is a holographic pattern having a diffraction grating structure.

16. The liquid crystal display device as claimed in claim 15, wherein the holographic pattern is formed at at least one of a lower surface and the upper surface of the lower substrate.

17. The liquid crystal display device as claimed in claim 15, wherein the interval between gratings of the holographic pattern is not greater than  $2\text{ }\mu\text{m}$ .